

BIRDS OF THE SWAN ISLANDS

BY RAYMOND A. PAYNTER, JR.

THE Swan Islands lie in the Caribbean Sea (Lat. 17°25' N., Long. 83°56' W.) about one hundred miles north of Punta Patuca, in eastern Honduras, the nearest point on the mainland, and nearly two hundred miles southwest of the Cayman Islands, the next nearest land. Swan Island, the larger of these low, coral islets, is slightly more than two miles long and about three-quarters of a mile wide; it is nearly rectangular. To the east, separated by less than a quarter of a mile of shallow water, is Little Swan Island, which is also roughly rectangular, but only a little more than a mile in length and about one third as wide.

According to Lowe (1909; 1911), both islands are covered by low forest, with the exception of parts of Swan Island which have been cleared for dwellings and extensive groves of coconuts. The number of species of trees enumerated by Lowe (1911) is notable, considering the isolation and small size of the islands. There is a small grassy area on Swan Island which was probably once a lagoon, although only a shallow area of fresh water remains in the center; this may disappear when rain is infrequent. From a description given by Delacour (1938), the vegetation seems not to have been further disturbed since Lowe's visit.

The first collection of birds from the islands was made by C. H. Townsend between February and March, 1887. The collection was studied by Ridgway (1888), who lists 30 species.

The next naturalist on the islands was Lowe, who remained there from mid-January to mid-February, 1908. He collected 18 species, saw an additional seven species, and from descriptions provided by the islanders tentatively records the following: *Anas discors*, *Anas crecca*, *Anas americana*, *Aythya valisineria*, *Gallinula chloropus*, *Columba squamosa*, *Tyrannus dominicensis*, and *Passerculus sandwichensis* (Lowe, 1909). In a later account (Lowe, 1911) he includes on the tentative list *Anas acuta* and *Anas clypeata*, two species not listed earlier, but omits *Anas discors* and *Anas crecca*. If it were not for the fact that *Anas discors* and *Tyrannus dominicensis* have since been reported from the islands, one might have disregarded the second-hand observations. All of these birds would not be unexpected on the islands; the failure of recent collectors to find more of the water birds may indicate that the pond has disappeared, or is rarely full enough to attract those species.

In 1912, George Nelson, of the Museum of Comparative Zoology, began a series of trips to the Swan Islands. Between February 25 and March 22, 1912, he collected 57 specimens, representing 19 species. From July 10 to 14, 1912, he took 13 specimens of two species. Finally, from April 8 to 19,

1913, five specimens of four species were secured. These collections contain much of importance, but no report was prepared. Bond's (1950a) record of *Limnothlypis swainsonii* from Swan Island is based on the specimen obtained by Nelson (Peters, 1913); none of the other records has been published.

In 1926 and 1927 the Museum of Comparative Zoology received single specimens of 18 species which were secured by Neal Wilson on the Swan Islands between September 25, 1926, and April 10, 1927. These birds are also of considerable interest but never were studied.

A. K. Fisher stopped at the islands from April 19 to 20, 1929, recording 21 species (Fisher and Wetmore, 1931). The last ornithologist to visit there appears to have been Delacour, who, on October 20, 1937, noted about a dozen forms, including several new to the islands (Delacour, 1938).

ANNOTATED LIST

The following list contains all of the species known, with certainty, to have occurred on the islands. Those birds which have not been noted previously in publications are indicated by an asterisk (*). The collectors, or observers, of each species are listed and full data are presented for specimens in the collections of Nelson and of Wilson.

Sula leucogaster leucogaster (Boddaert). Brown Booby. Townsend; Lowe; Fisher; Delacour. Breeds on Little Swan Island.

Sula sula sula (Linnaeus). Red-footed Booby. Townsend; Lowe; Fisher; Delacour. Breeds on Little Swan Island.

Fregata magnificens rothschildi Mathews. Man-o'-War Bird. Townsend; Lowe; Fisher; Delacour. Breeds on Little Swan Island.

Ardea herodias subsp. Great Blue Heron. Fisher; Delacour. Sight records.

Florida caerula (Linnaeus). Little Blue Heron. Lowe. Sight record.

Butorides virescens virescens (Linnaeus). Green Heron. Townsend; Fisher; Delacour; Nelson (1 female, Apr. 8, 1 female, Apr. 18, 1913); Wilson (1 unsexed specimen, Sept. 25, 1926). Townsend collected specimens on March 6 and 26, 1887, and Fisher one on April 19, 1929. The fact that Lowe did not find the species in mid-winter probably indicates that it is a transient. Fisher and Wetmore (1931) reached the same conclusion when discrediting *B. v. saturatus*, which Ridgway (1887) described from Swan Island.

**Nyctanassa violacea violacea* (Linnaeus). Yellow-crowned Night Heron. Nelson (1 male, Apr. 14, 1913).

Botaurus lentiginosus (Rackett). American Bittern. Lowe. Sight record.

Anas discors Linnaeus. Blue-winged Teal. Delacour. Sight record.

Pandion haliaetus subsp. Osprey. Lowe. Sight record.

Falco peregrinus anatum Bonaparte. Peregrine Falcon. Townsend; Lowe.

Falco columbarius columbarius Linnaeus. Pigeon Hawk. Townsend; Lowe; Fisher.

Falco sparverius subsp. Sparrow Hawk. Delacour. Sight record.

Porzana carolina (Linnaeus). Sora. Townsend.

**Fulica americana americana* Gmelin. American Coot. Wilson (1 male, Dec. 25, 1926).

**Charadrius hiaticula semipalmatus* Bonaparte. Ringed Plover. Wilson (1 male, Oct. 11, 1926).

Charadrius wilsonia subsp. Thick-billed Plover. Lowe. Sight record.

Arenaria interpres morinella (Linnaeus). Ruddy Turnstone. Lowe; Nelson (1 female, Mar. 2, 1912); Wilson (1 unsexed specimen, Oct. 9, 1926).

Tringa flavipes (Gmelin). Lesser Yellow-legs. Townsend; Nelson (1 female, Mar. 13, 1912); Wilson (1 female, Feb. 19, 1927).

Actitis macularia (Linnaeus). Spotted Sandpiper. Delacour. Sight record.

Calidris pusilla (Linnaeus). Semipalmated Sandpiper. Townsend.

Calidris melanotos (Vieillot). Pectoral Sandpiper. Townsend.

**Sterna fuscata fuscata* Linnaeus. Sooty Tern. Wilson (1 male, Oct. 4, 1926). The failure of earlier collectors to record this species, and the apparent lack of suitable nesting localities on the islands, suggest that Sooty Terns are visitants only.

Columba leucocephala Linnaeus. White-crowned Pigeon. Townsend; Lowe; Fisher; Delacour; Nelson (3 males, 3 females, Feb. 28 to Mar. 22, 1912). White-crowned Pigeons breed on both islands. The species is migratory in the northern section of its range and possibly part of the winter population on the Swan Islands is composed of visitants. There is no evidence of this, but the lack of evidence is of little significance since the data are scant; even the date of the nesting season is unrecorded.

Coccyzus minor nesiotus Cabanis and Heine. Mangrove Cuckoo. Townsend; Nelson (1 male, Mar. 1, 1912); Wilson (1 female, Oct. 11, 1926; 1 female, Apr. 10, 1927). The Mangrove Cuckoo is presumed to breed, but it should be noted that Lowe (1909) failed to record the bird in mid-winter, which implies that it may be only a transient. The recent discovery (Voous, 1955) that *C. m. maynardi*, a contiguous race to the north of *C. m. nesiotus*, is a visitor on Curaçao and Bonaire makes this seem more probable.

Coccyzus americanus americanus (Linnaeus). Yellow-billed Cuckoo. Townsend.

Crotophaga ani Linnaeus. Smooth-billed Ani. Lowe; Delacour; Nelson (2 females, Mar. 1, 1912). Lowe (1911) has made the plausible suggestion that since Townsend failed to take any specimens of the ani, the species probably became established on the islands sometime after 1887. Although Townsend may have neglected to collect anis, this seems improbable in view of the fact that he even collected series of boobys and frigate birds, species which are often purposely slighted by selective collectors. In further support of his idea, Lowe (1909; 1911) points out that the islands were heavily wooded until the mid-1800's when the first settlers arrived, and that it is unlikely that anis would have found an adequate habitat prior to the creation of clearings. Similar situations are known, with fair certainty, to have occurred on Tobago Island, where *Crotophaga ani* arrived in 1822 or 1823 (Kirk, in Jardine, 1840), and on the islands of San Andrés and Providencia, where the species became established within recent years (Bond, 1950b).

Chordeiles minor gundlachii Lawrence. Common Nighthawk. Fisher. A migrant.

Ceryle alcyon subsp. Belted Kingfisher. Lowe; Fisher. Sight records.

**Sphyrapicus varius varius* (Linnaeus). Yellow-bellied Sapsucker. Nelson (1 female, Mar. 7, 1912).

Tyrannus tyrannus (Linnaeus). Eastern Kingbird. Townsend.

**Tyrannus dominicensis dominicensis* (Gmelin). Gray Kingbird. Wilson (1 male, Mar. 30, 1927). This flycatcher is probably a transient since no other collector has found it.

Contopus virens virens (Linnaeus). Eastern Wood Pewee. Townsend; Fisher.

Iridoprocne bicolor (Vieillot). Tree Swallow. Delacour. Sight record.

- **Riparia riparia riparia* (Linnaeus). Bank Swallow. Wilson (1 female, Mar. 26, 1927).
- Hirundo rustica erythrogaster* Boddaert. Barn Swallow. Townsend; Fisher; Wilson (1 male, Mar. 19, 1927).
- **Petrochelidon pyrrhonota pyrrhonota* (Vieillot). Cliff Swallow. Wilson (1 male, Mar. 21, 1927).
- Dumetella carolinensis* (Linnaeus). Catbird. Townsend; Lowe; Fisher; Nelson (3 males, 2 females, Mar. 15 to 22, 1912).
- Mimocichla plumbea rubripes* (Temminck). Western Red-legged Thrush. Townsend collected ten specimens, but the bird has not been observed since. It is presumed to have been extirpated, possibly owing to the disturbance of the forest.
- Catharus ustulatus swainsoni* (Tschudi). Olive-backed Thrush. Fisher; Wilson (1 male, Oct. 22, 1926).
- **Catharus minimus minimus* (Lafresnaye). Gray-checked Thrush. Nelson (1 female, Apr. 19, 1913).
- Vireo griseus noveboracensis* (Gmelin). White-eyed Vireo. Lowe.
- **Vireo flavifrons* Vieillot. Yellow-throated Vireo. Nelson (1 female, Mar. 14, 1912).
- Mniotilta varia* (Linnaeus). Black-and-white Warbler. Townsend; Lowe; Fisher.
- Limnithlypis swainsonii* (Audubon). Swainson's Warbler. Nelson (1 female, Mar. 1, 1912). This specimen appears to have been the one cited by Bond (1950a).
- Helmintheros vermivorus* (Gmelin). Worm-eating Warbler. Lowe; Nelson (1 male, Mar. 1, 1912).
- Parula americana pusilla* (Wilson). Parula Warbler. Townsend; Nelson (1 female, Feb. 28, 1912).
- **Dendroica tigrina* (Gmelin). Cape May Warbler. Nelson (1 male, Mar. 22, 1912).
- Dendroica caerulescens caerulescens* (Gmelin). Black-throated Blue Warbler. Townsend; Fisher; Nelson (1 female, Feb. 29, 1912).
- Dendroica coronata coronata* (Linnaeus). Myrtle Warbler. Townsend; Lowe; Nelson (3 females, Mar. 14 to 22, 1912).
- Dendroica fusca* (Müller). Blackburnian Warbler. Fisher. Sight record.
- Dendroica dominica dominica* (Linnaeus). Yellow-throated Warbler. Nelson (1 female, Feb. 29, 1912).
- Dendroica discolor discolor* (Vieillot). Prairie Warbler. Townsend.
- Dendroica vitellina nelsoni* Bangs. Vitelline Warbler. Townsend; Lowe; Fisher; Delacour; Nelson (11 males, 12 females, 1 unsexed specimen, Feb. 25 to Mar. 12; 6 males, 5 females, 1 unsexed specimen, July 10 to 12, 1912). This is the only breeding passerine on the islands and also the only endemic form.
- Dendroica palmarum palmarum* (Gmelin). Palm Warbler. Townsend; Lowe; Nelson (1 female, Feb. 28, 1 male, Mar. 2, 1912).
- Seiurus aurocapillus aurocapillus* (Linnaeus). Ovenbird. Townsend; Nelson (1 unsexed specimen, Feb. 28, 1 male, Mar. 22, 1912); Wilson (1 unsexed specimen, Mar. 15, 1927).
- **Seiurus motacilla* (Vieillot). Louisiana Waterthrush. Nelson (1 female, July 14, 1912). This is an unusually early date for the species to be so far south.
- Seiurus noveboracensis notabilis* Ridgway. Northern Waterthrush. Townsend; Wilson (1 unsexed specimen, Sept. 28, 1926).
- Geothlypis trichas brachidactyla* (Swainson). Common Yellowthroat. Townsend.
- **Wilsonia citrina* (Boddaert). Hooded Warbler. Wilson (1 male, Mar. 25, 1927).
- Setophaga ruticilla* (Linnaeus). American Redstart. Townsend; Lowe; Fisher; Nelson (1 female, Feb. 29, 1912); Wilson (1 female, Oct. 9, 1926).

**Icterus spurius spurius* (Linnaeus). Orchard Oriole. Nelson (1 male, Apr. 17, 1913).

**Dolichonyx oryzivorus* (Linnaeus). Bobolink. Wilson (1 male, Oct. 2, 1926).

Piranga rubra rubra (Linnaeus). Summer Tanager. Fisher.

Spiza americana (Gmelin). Dickcissel. Townsend; Fisher.

DISCUSSION

There is little doubt that wanderers or hurricane-wafted strays reach the Swan Islands with some regularity. However, owing to deficient numbers, because of an incompatible habitat, or for a number of other reasons, most species are unable to become established. Indeed, even on larger and ecologically more diverse oceanic islands, successful colonization is not common, as indicated by their depauperate avifaunas. The fortuitous manner by which the Swan Islands were populated is vividly evident. Of the 65 species recorded from there, only seven or eight are resident. Three of these (*Sula leucogaster*, *Sula sula* and *Fregata magnificens*) are marine and five (*Columba leucocephala*, *Coccyzus minor* [resident?], *Crotophaga ani*, *Mimocichla plumbea*, and *Dendroica vitellina*) are land forms. It is interesting to speculate on the origin of the latter group.

Columba leucocephala disperses widely after the breeding season, which undoubtedly has led to its colonizing even the remote islands of the western Caribbean region. Its presence on the Swan Islands is in no way unusual.

Coccyzus minor nesiotus is a race found also on Jamaica, the Cayman Islands, Hispaniola, and other islands in the vicinity. If it is resident on the Swan Islands, it could most easily have arrived from Jamaica or the Cayman Islands, possibly through the agency of hurricanes. Its failure to differentiate in the manner of other isolated populations of the species, as, for example, those on San Andrés and Providencia islands, may be attributed to its recent arrival or, possibly, to genetic swamping by frequent immigrants. An alternate and more simple explanation may be that the bird is merely a transient on the islands.

Crotophaga ani, which apparently arrived between 1837 and 1908, seems to have been quick to exploit a newly created habitat, considering that the nearest source of immigrants is 200 miles across the Caribbean. If the lack of open fields had prevented Smooth-billed Anis from inhabiting the Swan Islands, and if clearings were first made about 1850, then colonization must have occurred within a maximum of fifty years after the habitat was altered; it could have occurred within half that time. This suggests that these isolated islands receive stray anis frequently, or that it was merely a matter of chance that the species should arrive so promptly. No matter which proposal is correct, the ani undoubtedly colonizes with more ease than many species, since it is highly social and several birds may wander, or be blown, to an

island at one time, thereby facilitating the establishment of a breeding population.

The former presence of *Mimocichla plumbea rubripes*, a race found on the Isle of Pines and in central and western Cuba, is unexpected. Assuming that the source of Townsend's specimens is correctly indicated, which is reasonably certain, one must accept the Cuban or Isle of Pines origin of the Swan Islands population. The birds may have been carried there by the northeastern trade winds, or they may have been swept to sea by hurricanes and later wandered to the Swan Islands. Thrushes are secretive and seem among the species most unlikely to colonize an isolated island. Nevertheless, they are distributed widely and have reached even as remote a place as Gough Island, in the South Atlantic. In this light, the presence of a thrush on the Swan Islands is not extraordinary.

Dendroica vitellina is restricted to the Cayman and Swan Islands. The Swan Islands endemic, *D. v. nelsoni*, was certainly derived from Cayman Islands stock. Hurricanes often sweep across the Caribbean in a path ideally suited to dispersal in this pattern.

The fact that 57 species have been recorded as migrants or visitants on the islands, in spite of scattered and infrequent observations, makes it obvious that migration across the Caribbean in the vicinity of the Swan Islands is of considerable magnitude. The presence of so many migrants cannot be accidental and suggests that the islands are on a migration route.

The available data are not sufficient to be confident of differentiating all of the visitants from all of the migrants. Therefore, if the discussion is confined to species which are not known to winter in the West Indies, we are left with the following 12 birds, which are certainly transients on the islands: *Chordeiles minor gundlachii*, *Tyrannus tyrannus*, *Contopus virens*, *Riparia r. riparia*, *Petrochelidon p. pyrrhonota*, *Catharus ustulatus swainsoni*, *Catharus m. minimus*, *Dendroica fusca*, *Wilsonia citrina*, *Icterus spurius*, *Dolichonyx oryzivorus*, and *Spiza americana*. Only *Riparia r. riparia* and *Dolichonyx oryzivorus* are found regularly east or south of the northern West Indies, indicating that most of the species on the list reach the mainland by some route other than through the chain of Greater and Lesser Antilles.

Tyrannus tyrannus, *Petrochelidon p. pyrrhonota*, *Catharus ustulatus swainsoni*, *Catharus m. minimus*, and *Dendroica fusca* winter exclusively in South America but do not occur on migration in the Lesser Antilles. In order to reach their winter quarters from the northern West Indies they must cross the open Caribbean. Since the Swan Islands are well to the west of a direct route from the Greater Antilles to South America, yet they receive migrants destined for South America as well as other migrants, it is logical to conclude

that they lie on a migration path extending from the northern Antilles to northern Central America. The five species under consideration occur in Central America but, unfortunately, all are known to migrate through Middle America, as well as via the West Indies. This has obscured the northern trans-Caribbean migration route and led to the generalized assumption (e.g., Lincoln, 1950) that south-bound (or north-bound) birds migrate through Middle America or through the West Indies, but seldom utilize sections of both routes.

From the list of migrants found on the Swan Islands, it can be seen that not only do birds which winter in South America use this path, but also species which winter in Central America. When longer and more detailed studies have been made in the Caribbean, it may be found that the Greater Antilles-Central America route is fully as important as that between the Greater Antilles and South America.

SUMMARY

Sixty-five species of birds have been recorded from the Swan Islands. Seven or eight are resident; three are marine (*Sula l. leucogaster*, *Sula s. sula*, and *Fregata magnificens rothschildi*) and five are land forms (*Columba leucocephala*, *Coccyzus minor nesiotus* [resident?], *Crotophaga ani*, *Mimochlora plumbea rubripes*, and *Dendroica vitellina nelsoni*).

The thrush, whose origin was in Cuba or the Isle of Pines, was extirpated between 1887 and 1908; the ani arrived within the same period. Deforestation may have been responsible for both events.

The only endemic is *Dendroica v. nelsoni*, which was derived from Cayman Islands stock.

The presence of many migrants suggests the occurrence of large-scale migration between the northern Antilles and Central America.

ACKNOWLEDGMENTS

James Bond and James C. Greenway, Jr., critically read the manuscript. Their suggestions and assistance are gratefully acknowledged.

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